

REMARKS

The Examiner's Action mailed on December 19, 2002 has been received and its contents carefully considered.

In this Amendment, Applicants have amended the title. Claims 1 and 5 have been editorially amended. The changes to claims 1 and 5 do not change the scope of these claims in any manner, and have not been made to help distinguish over the art of record. Further, claims 7-18 have been added. Claims 1 and 7 are the independent claims. Claims 1-18 are pending in the application. For at least the following reasons, it is submitted that this application is in condition for allowance.

The Examiner has indicated the title is not descriptive. Applicants have amended the title in a manner that is clearly indicative of the invention to which the claims are directed. It is requested that this objection be withdrawn.

The Examiner has rejected claim 5 under 35 USC 112, second paragraph, as being indefinite. In response thereto, claim 5 has been amended, in which care has been taken to ensure its compliance with 35 USC 112, second paragraph, and to avoid any of the indefiniteness issues raised by the Examiner. The rejection therefore is no longer applicable and accordingly should be withdrawn.

The Examiner has rejected claims 1-6 as being anticipated by *Johnson et al.* (USP 6,439,731). It is submitted that these claims are patentably distinguishable over the cited reference for at least the following reasons.

It is well settled that a reference may anticipate a claim within the purview

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of 35 U.S.C. §102 only if all the features and all the relationships recited in the claim are taught by the reference structure either by clear disclosure or under the principle of inherency.

Applicants' independent claim 1 is directed to a display module including a plurality of light emitting elements, a metal plate, a circuit board and a display panel. The light emitting elements are wire bonded to the circuit board and a lens is formed atop each of the light emitting elements. Moreover, the circuit board is positioned on a lateral side or around the display panel. This claimed display module is not disclosed by the cited reference.

Johnson et al. disclose a device for backlighting a liquid crystal display (LCD) device using an array of light emitting diodes (LEDs) mounted in a cavity behind the LCD. The LCD device 1 includes a printed circuit board (PCB) 10, LEDs 12 disposed on PCB 10, an optical chamber 16 and a heat sink plate 22. LEDs 12 are soldered or bonded using conventional direct chip attach (DCA) bonding to connection pads on one side of PCB 10 (See column 5, lines 1-6 and lines 22-26). PCB 10 is sized to fit into the optical chamber 16.

The Examiner acknowledges that *Johnson et al.* do not explicitly mention that the heat sink is a metal plate. However, the Examiner states that the heat sink plate 22 is inherently metal. However, it is respectfully submitted that heat sinks are not inherently (i.e., always) metal, as proposed by the Examiner. The Examiner's attention is directed to US patent no. 4,816,173 or no. 6,399,149, herein attached. These patents disclose heat sink materials that are not metal.

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Thus, it is not inherent that the heat sink plate 22 is metal, since it could be formed of non-metal materials, such as saline hydrate or carbon foam, as disclosed by the attached patents.

Moreover, the Examiner also acknowledges that *Johnson et al.* do not explicitly mention that LEDs are wire bonded to the circuit board. However, the Examiner states that an LED device being wire bonded to a circuit board is inherent. However, it is respectfully submitted that wire bonding LEDs to a circuit board is not inherent, as proposed by the Examiner. As disclosed by *Johnson et al.*, the LEDs 12 are soldered or bonded using conventional direct chip attach (DCA) bonding to connection pads on one side of PCB 10. DCA bonding is a different technique, using different structure, than wire bonding. That is, wire bonding requires a wire for the connection, whereas DCA bonding does not. Thus, it is not inherent that the LEDs are wire bonded to a circuit board, since the LEDs could be soldered or bonded using DCA.

Moreover, it is submitted the Examiner has not provided sufficient evidence that it is inherent that light-emitting elements have lens formed atop thereof, as proposed in the Action. The Examiner's attention is directed to MPEP § 2112, under the heading "EXAMINER MUST PROVIDE RATIONALE OR EVIDENCE TENDING TO SHOW INHERENCY." This paragraph recites: "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not

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be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " The Examiner has failed to provide such evidence.

Furthermore, and in contrast to the present invention, *Johnson et al.* do not disclose the circuit board being positioned on a lateral side or around the display panel. Instead, the PCB of *Johnson et al.* is sized to fit into the optical chamber. As such, it is requested that this claim be allowed.

Further, it is submitted that dependent claims 2-6 are patentably distinguishable over the cited reference for at least the same reasons as independent claim 1, from which these claims respectively depend, as well as for the additional features recited therein. Moreover, Applicants' claim 3 recites that the light emitting elements are pasted to the metal plate. In contrast, *Johnson et al.* disclose that the LEDs 12 are soldered or bonded using conventional DCA bonding to connection pads on one side of PCB 10, and is entirely silent as to any connection between the LEDs 12 and the plate 22, as would be required by claim 3. That is, *Johnson et al.* do not disclose Applicants' claim 3. As such, claims 1-6 are deemed clearly patentable over *Johnson et al.*, and the rejection accordingly should be withdrawn.

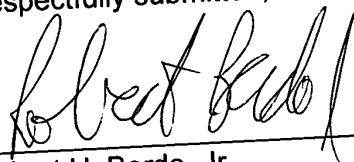
Applicants have added new claims 7-18. The cited references do not disclose or suggest the features of claims 7-18. It is thus requested that these claims also be allowed.

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It is submitted that this application is in condition for allowance. Such action, and the passing of this case to issue are requested.

Should the Examiner feel that a conference would help to expedite the prosecution of the application, the Examiner is hereby invited to contact the undersigned counsel to arrange for such an interview.

Respectfully submitted,



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Attachments: US Patent No. 4,816,173 and 6,399,149

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